

**Триома**

Разработка и производство  
интерфейсных адаптеров



## **Bluetooth-module BMT-2.2**

Service manual

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## Chapter 1. Description

The BMT-2.2 module is an accessory to USB adapter «Trioma». It is compatible with all Flipper-2 models, except for the special version of Multi-Flip (for BMW-DSP), Skif and Skif-Volvo adapters.

It provides wireless connection of various multimedia devices to the car's audio system via an installed USB adapter.

The module can work in the standard Bluetooth 4.0 or lower, supports profiles A2DP (stereo reception) and HFP (wireless headset).

## Chapter 2. Connection and pairing

- 1) Install the USB adapter (Flipper-2, Skif, Skif-Volvo, see the adapter manual).
- 2) Connect the Bluetooth-module (connector Din8 male) and USB adapter (connector Din8 female)

3) Connect the microphone and install it in the car's interior (optimal - before the user within a radius of not more than 0.8 m). It is not recommended to place the microphone near the speakers, and also to direct the microphone to them.

4) Connect an AUX cable to the module (not supplied) if necessary.

5) Activate the USB adapter by selecting the external CD changer mode on the car radio (further in the text - CDC).

6) Switch the USB adapter to the additional port / AUX mode (see the adapter manual):

- Flipper-2 - by turning on/off the function «Repeat» (Random/Scan) or removing the USB flash drive from the USB connector. «Turning on/off» means that the function must be turned on, and then turn off for 3 seconds.
- Skif - by turning on/off any of the functions (Repeat or Random or Scan) during playback from the USB flash drive. «Turning on/off» means that the function must be turned on, and then turn off for 3 seconds.
- Skif-Volvo (except for Range Rover Vogue) - with the Eject button during playback from the USB flash drive.
- Skif-Volvo (for Range Rover Vogue) - selecting CD4 during playback from the USB flash drive.

The result of the activation of the AUX mode should be the activity of the Bluetooth-module, while the module generates a characteristic melodic signal, and the display should show the status of:

- for Flipper-2 adapter: **Track-51** (BMT basic mode) or **Track-52** (BMT selective mode)
- for the Skif and Skif-Volvo adapter: **Track-13**

7) Start the phone on the search mode for new Bluetooth devices and select CSR8645 in the list of found devices. If the pairing is established, then in the acoustics of the car two tones will sound. Note: Only one Bluetooth device can be connected at a time.

After successfully pairing the Bluetooth-module BMT-2.2 with the mobile device, all further connections and disconnections between them will occur automatically.

The module BMT-2.2 has a built-in acoustic echo cancellation system. For more efficient operation, it is not recommended to direct it to the elements of the speaker when installing the microphone, and also to set an unnecessarily high level of the telephone channel sound when setting up the Bluetooth-module.

## Troubleshooting. Restarting the module

If there are any problems (unsuccessful pairing, incorrect operation of the module, etc.)

- turn off and on again the bluetooth module BMT-2.2 (about restarting the module below in the note),
- check Bluetooth settings of your device,
- repeat the pairing process (steps 6-7).

To restart the Bluetooth-module BMT-2.2, you must:

- on all cars with Skif, Skif-Volvo or Flipper-2 adapter (except for Toyota/Lexus with adapter software v.41 or higher), switch the original system to the «Radio» mode or turn it off, and then turn on the CDC mode, and set the adapter to AUX mode.
- on Toyota/Lexus cars (when using the HoST-Flip USB adapter with software v.41 or higher), the module is active in all modes when the car's ignition is on. To restart the module, you must remove the USB stick from the USB connector for 2-3 seconds. When using earlier versions of the software in Toyota/Lexus, the module is restarted as well as on all other cars (switching to «Radio» mode and back).

## Chapter 3. Operation

The Bluetooth-module BMT-2.2 can be in one of three states: «OFF mode», «ON mode», «standby mode».

In cars with optical interface MOST (USB adapters Skif and Skif-Volvo) the module is switched on (ON mode) only when the USB adapter is active and in AUX mode. In all other cases, the module is turned off (OFF mode).

In Toyota / Lexus cars (USB-adapter HoST-Flip with the v.41 or higher adapter software version), the module is turned on (ON mode) when the USB adapter is active and in AUX mode. The unit turns off (OFF mode) briefly when the USB flash drive is removed from the USB connector of the adapter. In all other cases, the module is in the standby mode.

In other cars (USB Flipper-2 adapter, including HoST-Flip with software version v.40 or less), the module is turned on (ON mode) when the USB adapter is active and in AUX mode. The module is in the standby mode when the USB adapter is active and is in USB flash drive playback mode. In all other cases it is turned off (OFF mode).



Full control of the module is possible if it is in the «ON mode». In this case:

- Start/Stop playback using the disc selection buttons.
- Select files for playback - with the buttons for selecting tracks.
- Receiving and rejecting a telephone call - with the buttons for selecting disks or tracks (depending on the software version).
- Fast playback commands (FF and FR) adjust the sound level of the wireless channel.

In the standby mode, the module responds to incoming and outgoing phone calls, and when recognized, it goes into the activity mode of the external device, while the audio streams of the wireless channel are connected to the microphone and acoustics. On the head unit's display, while this is the «Track-50» status, it can receive and reject a telephone call using the disc or track selection buttons. After the session, the system returns to its original state.

### Adjusting the volume level

Fast playback commands (FF and FR) adjust the sound level of the wireless channel to a higher or lower side. During audio playback, the volume level of the audio channel is adjusted, and in the absence of audio playback, the volume level of the telephone channel is adjusted. The module remembers these adjustments in non-volatile memory when it goes into the «OFF mode». Therefore, for memorization of adjustments, it is necessary at least briefly to transfer the module to the «OFF mode» by transferring the system to «Radio» mode or by removing the USB flash drive (depending on the type of system).

## Chapter 4. Audio input (AUX)

The Bluetooth module BMT-2.2 allows you to connect an additional external audio source to the system. For this purpose, the module body has an additional connector (AUX), which serves as an audio input. It is active if the USB adapter is in the AUX state, and the wireless audio channel is not active (it is not necessary to disconnect the connection between the module and the mobile device to play the sound through the external input).

## Chapter 5. Use in different cars

In all cars (with the BMT-2.2 module operating), the sound is reproduced by the original audio system, regulated by the standard controls, and during a telephone conversation, the sound is received by the microphone supplied with the module. The user can set the sound level separately for the telephone conversation mode and for the audio playback mode. With the buttons of the original audio system, you can start and stop audio playback, switch forward and backward audio tracks, and «take off / hang up» during a telephone conversation.

1) In cars Toyota/Lexus (USB adapter HoST-Flip with software version v.41 or higher), wireless telephony is possible in all modes of operation of the original audio system, even if the head unit is turned off. When you make a phone call (incoming or outgoing), the BMT-2.2 module is activated, the regular buttons for selecting a disc or a track allow you to «take off / hang up». When the call is complete, the audio system returns to its original state. Sound reproduction via wireless channel is implemented in different ways depending on the software version:

- BMT basic mode (v.41 software) - all sounds sent to the wireless channel are played back by regular acoustics, regardless of the head unit mode.
- BMT selective mode (v.42 software) - all sounds of the mobile device that are not related to the phone session are only played back when the USB adapter is active and in AUX mode. That is, if the adapter is in a other mode, then this version of the software allows to exclude the «unnecessary» interruption of the playback of the main source (for example, FM broadcast with incoming SMS). But at the same time, the possibility of "hands-free communication" remains.

2) In other cars (except for Toyota / Lexus) (when using the module with Flipper-2 adapter), wireless phone communication is possible only with the activity of the USB adapter (that is, a regular system in CDC mode, the adapter plays the USB flash drive or is in the AUX state). When you make a phone call (incoming or outgoing), the adapter will stop playback from the USB flash drive and enter the external device's activity mode. In this case, the regular buttons for selecting a disc or track will allow you to «take off / hang up». When the call is complete, the regular system returns to its original state. Sound reproduction via wireless channel is implemented in different ways depending on the software version:

- BMT basic mode: all sounds from the wireless channel are played by the regular acoustics (and when the adapter is in AUX, and when the flash drive plays), causing the playback to pause.

- BMT selective mode: all sounds not related to the phone session are played back by the regular acoustics only when the adapter is in AUX mode. In this case, playback from the USB flash drive is only able to interrupt the phone call.

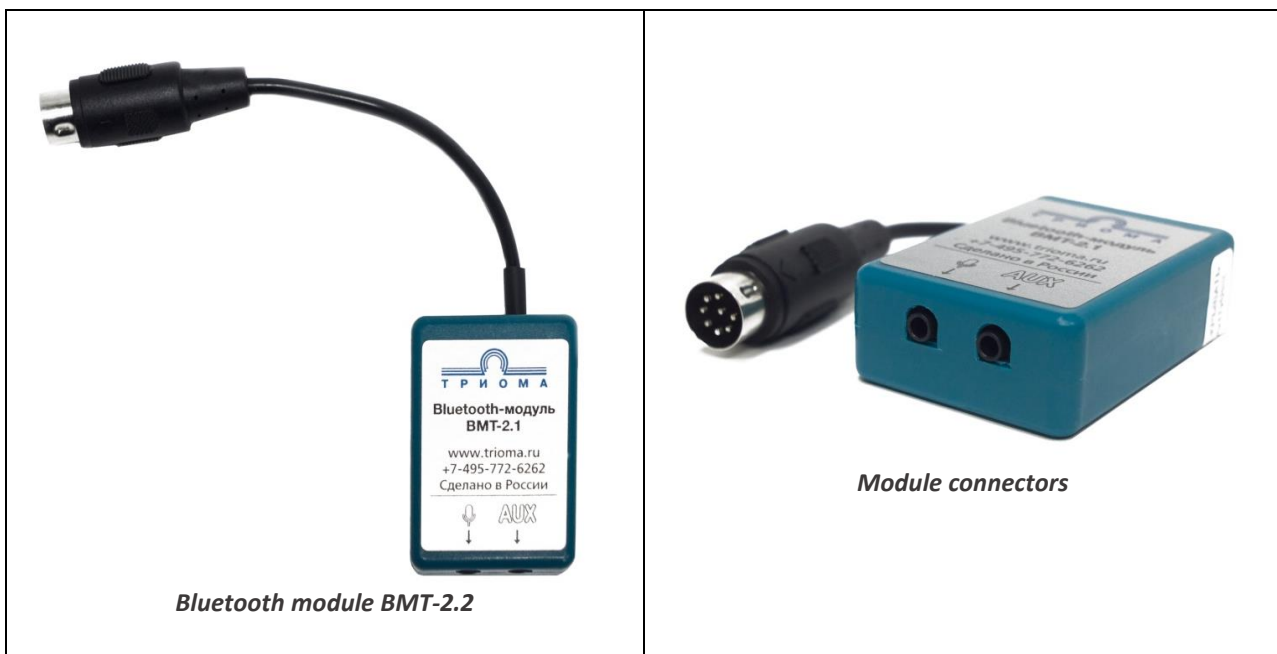
3) On cars with an MOST optical interface (when using the module together with the Skif / Skif-Volvo USB adapter), the phone connection and music playback via the wireless channel are only possible when the USB adapter is active and in AUX mode (the head unit is CDC).

## Chapter 6. Package contents

- 1) Bluetooth module BMT-2.2
- 2) Microphone (Oklick MP-M008 or other)
- 3) Service manual

## Chapter 7. Module connectors. Images

- 1) DIN-8 male (plug) - to connect to the USB-adapter
- 2) MiniJack-3.5 female (socket) - to connect the hands-free microphone (included)
- 3) MiniJack-3.5 female (socket) – line audio input AUX



## Chapter 8. Frequently asked question (FAQ)

1) How do I activate the Bluetooth module connected to the Skif USB adapter?	During the playback of the flash drive to turn on and immediately turn off any of the functions Repeat, Random, Scan
2) How do I activate the Bluetooth module connected to the Skif-Volvo USB adapter?	During the playback of the flash drive press the Eject button, for RR Vogue – CD4
3) Incorrect (unstable) operation of the module	<ul style="list-style-type: none"><li>- check USB adapter (USB stick "sings", switching tracks and folders works)</li><li>- restart phone</li><li>- check the correct operation with another phone</li></ul>
4) What to do if the volume level on the Bluetooth channel has decreased?	<ul style="list-style-type: none"><li>- compare the volume of the radio, flash drive and Bluetooth channel.</li><li>- check the volume settings in the phone</li><li>- see Chapter «Adjusting the volume level»</li></ul>
5) Does the text display?	No. The track title, name, phone, etc. information on regular display are displayed.
6) Does it support steering wheel control and the head unit?	Yes. Supported commands +/- track, play/pause, answer / reset call
7) Can I use the standard phone control buttons ?	No. They are not related to the module operation
8) What decoders does it support	aptX, SBC, MP3, AAC

### **Bluetooth module BMT-2.2 developed and manufactured in Russia**

The manufacturer ("Trioma") reserves the right make design changes without prior notice, product specifications and software, won't decrease its consumer properties

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